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STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
AIR POLLUTION CONTROL DIVISION
TELEPHONE: (303) 692-3150

CONSTRUCTION PERMIT

PERMIT NO: **14WE0501**

Issuance 1

DATE ISSUED:

ISSUED TO: **Noble Energy, Inc.**

THE SOURCE TO WHICH THIS PERMIT APPLIES IS DESCRIBED AND LOCATED AS FOLLOWS:

Oil and gas exploration and production facility known as the Rohn LD04 EcoNode, located in the NESE Section 4, Township 9N, Range 58W, Weld County, Colorado.

THE SPECIFIC EQUIPMENT OR ACTIVITY SUBJECT TO THIS PERMIT INCLUDES THE FOLLOWING:

Facility Equipment ID	AIRS Point	Description
Tanks	001	Thirty-six (36) 750 bbl and eight (8) 538 bbl above ground atmospheric condensate storage tanks. Emissions from these tanks are controlled by an enclosed flare with a minimum combustion efficiency of 95%.
PW	002	Twelve (12) above ground 500 bbl and two (2) below ground 100 bbl produced water storage tanks. Emissions from these tanks are controlled by an enclosed flare with a minimum combustion efficiency of 95%.
TLO	003	Truck Condensate Loadout. Emissions from this loadout operation are controlled by an enclosed flare with a minimum combustion efficiency of 95%.
Flare	004	Well head separator controlled by a flare. Flare has a minimum combustion efficiency of 95%.
Fugitives	005	Fugitive VOC leak emissions.
GL Comp1	006	One (1) Caterpillar, Model G3516B, Serial Number JEF02156, natural gas-fired, turbo-charged, 4SLB reciprocating internal combustion engine, site rated at 1380 horsepower. This engine is equipped with an oxidation catalyst and an air/fuel ratio controller. This emission unit is used for natural gas compression.

Facility Equipment ID	AIRS Point	Description
GL Comp2	007	One (1) Caterpillar, Model G3516B, Serial Number JEF02168, natural gas-fired, turbo-charged, 4SLB reciprocating internal combustion engine, site rated at 1380 horsepower. This engine is equipped with an oxidation catalyst and an air/fuel ratio controller. This emission unit is used for natural gas compression.
WH Comp1	008	One (1) Caterpillar, Model G3408TA, Serial Number 6NB05118, natural gas-fired, turbo-charged, 4SRB reciprocating internal combustion engine, site rated at 332 horsepower. This engine is equipped with a non-selective catalytic reduction (NSCR) system and an air/fuel ratio controller. This emission unit is used for natural gas compression.
WH Comp2	009	One (1) Caterpillar, Model G3408TA, Serial Number 6NB05120, natural gas-fired, turbo-charged, 4SRB reciprocating internal combustion engine, site rated at 332 horsepower. This engine is equipped with a non-selective catalytic reduction (NSCR) system and an air/fuel ratio controller. This emission unit is used for natural gas compression.
VRU Comp1	010	One (1) Cummins, Model 7.4L, Serial Number 00067675, natural gas-fired, naturally aspirated, 4SRB reciprocating internal combustion engine, site rated at 110 horsepower. This engine is equipped with a non-selective catalytic reduction (NSCR) system and an air/fuel ratio controller. This emission unit is used for natural gas compression.
Gen1	011	One (1) Doosan, Model D146L, Serial Number EEZ0G100147, natural gas-fired, naturally aspirated, 4SRB reciprocating internal combustion engine, site rated at 449 horsepower. This engine is uncontrolled. This emission unit is used for power generation.
Gen2	012	One (1) Cummins, Model QSB7G6, Serial Number 22085676, diesel-fired, reciprocating internal combustion engine, site heat input rated at 7,000 BTU/hp-hr, having a site rated output at or below 135 HP, powering generator set. This engine is uncontrolled. This emission unit is used for power generation.This engine is subject to NSPS IIII Interim Tier 4 Standards.

Points 006 and 007: These engines may be replaced with another engine in accordance with the temporary engine replacement provision or with another Caterpillar G3516B engine in accordance with the permanent replacement provision of the Alternate Operating Scenario (AOS), included in this permit as Attachment A.

Points 008 and 009: These engines may be replaced with another engine in accordance with the temporary engine replacement provision or with another Caterpillar G3408TA engine in accordance with the permanent replacement provision of the Alternate Operating Scenario (AOS), included in this permit as Attachment A.

Point 010: This engine may be replaced with another engine in accordance with the temporary engine replacement provision or with another Cummins 7.4L engine in accordance with the permanent replacement provision of the Alternate Operating Scenario (AOS), included in this permit as Attachment A.

Point 011: This engine may be replaced with another engine in accordance with the temporary engine replacement provision or with another Doosan D146L engine in accordance with the permanent replacement provision of the Alternate Operating Scenario (AOS), included in this permit as Attachment A.

Point 012: This engine may be replaced with another engine in accordance with the temporary engine replacement provision or with another Cummins QSB7G6 engine in accordance with the permanent replacement provision of the Alternate Operating Scenario (AOS), included in this permit as Attachment B.

THIS PERMIT IS GRANTED SUBJECT TO ALL RULES AND REGULATIONS OF THE COLORADO AIR QUALITY CONTROL COMMISSION AND THE COLORADO AIR POLLUTION PREVENTION AND CONTROL ACT C.R.S. (25-7-101 et seq), TO THOSE GENERAL TERMS AND CONDITIONS INCLUDED IN THIS DOCUMENT AND THE FOLLOWING SPECIFIC TERMS AND CONDITIONS:

REQUIREMENTS TO SELF-CERTIFY FOR FINAL AUTHORIZATION

1. **YOU MUST notify the Air Pollution Control Division (the Division) no later than fifteen days after issuance of this permit, by submitting a Notice of Startup form to the Division.** The Notice of Startup form may be downloaded online at www.cdphe.state.co.us/ap/downloadforms.html. Failure to notify the Division of startup of the permitted source is a violation of Air Quality Control Commission (AQCC) Regulation No. 3, Part B, Section III.G.1 and can result in the revocation of the permit.

2. Within one hundred and eighty days (180) after issuance of this permit, compliance with the conditions contained in this permit shall be demonstrated to the Division. It is the owner or operator's responsibility to self-certify compliance with the conditions. Failure to demonstrate compliance within 180 days may result in revocation of the permit. (Reference: Regulation No. 3, Part B, III.G.2).

3. This permit shall expire if the owner or operator of the source for which this permit was issued: (i) does not commence construction/modification or operation of this source within 18 months after either, the date of issuance of this construction permit or the date on which such construction or activity was scheduled to commence as set forth in the permit application associated with this permit; (ii) discontinues construction for a period of eighteen months or more; (iii) does not complete construction within a reasonable time of the estimated completion date. The Division may grant extensions of the deadline per Regulation No. 3, Part B, III.F.4.b. (Reference: Regulation No. 3, Part B, III.F.4.)

4. The operator shall complete all initial compliance testing and sampling as required in this permit and submit the results to the Division as part of the self-certification process. (Reference: Regulation No. 3, Part B, Section III.E.)

5. The following information for each engine shall be provided to the Division within fifteen (15) days after issuance of permit.

    - manufacturer

- model number
- serial number

This information shall be included with the Notice of Startup submitted for the equipment. (Reference: Regulation No. 3, Part B, III.E.)

6. The operator shall retain the permit final authorization letter issued by the Division, after completion of self-certification, with the most current construction permit. This construction permit alone does not provide final authority for the operation of this source.

EMISSION LIMITATIONS AND RECORDS

7. Emissions of air pollutants shall not exceed the following limitations (as calculated in the Division's preliminary analysis). (Reference: Regulation No. 3, Part B, Section II.A.4)

Annual Limits:

Facility Equipment ID	AIRS Point	Tons per Year				Emission Type
		SOx	NO_x	VOC	CO	
Tanks	001	---	---	52.7	---	Point
PW	002	---	---	6.6	---	Point
TLO	003	---	---	10.9	---	Point
Flare	004	---	1.8	17.8	9.8	Point
Fugitives	005	---	---	65.0	---	Fugitive
GL Comp1	006	---	6.7	3.3	2.7	Point
GL Comp2	007	---	6.7	3.3	2.7	Point
WH Comp1	008	---	3.2	0.5	6.4	Point
WH Comp2	009	---	3.2	0.5	6.4	Point
VRU Comp1	010	---	1.1	0.5	2.1	Point
Gen1	011	---	2.2	2.2	2.2	Point
Gen2	012	2.5	11.8	---	14.6	Point

See "Notes to Permit Holder" for information on emission factors and methods used to calculate limits.

Facility-wide emissions of each individual hazardous air pollutant shall be less than 8.0 tpy.

Facility-wide emissions of total hazardous air pollutants shall be less than 20.0 tpy.

Compliance with the annual limits shall be determined by recording the facility's annual criteria pollutant emissions, (including all HAPs above the de-minimis reporting level) from each emission unit, on a rolling twelve (12) month total. By the end of each month a new twelve-month total shall be calculated based on the previous twelve months' data.

The permit holder shall calculate emissions each month and keep a compliance record on site or at a local field office with site responsibility, for Division review. This rolling twelve-month total shall apply to all permitted emission units, requiring an APEN, at this facility.

8. **Point 005:** The operator shall calculate actual emissions from this emissions point based on representative component counts for the facility with the most recent gas analysis, as required in the Compliance Testing and Sampling section of this permit. The operator shall maintain records of the results of component counts and sampling events used to calculate actual emissions and the dates that these counts and events were completed. These records shall be provided to the Division upon request.

9. The owner or operator shall track emissions from all insignificant activities at the facility on an annual basis to demonstrate compliance with the facility emission limitations as seen below. An inventory of each insignificant activity and associated emission calculations shall be made available to the Division for inspection upon request. For the purposes of this condition, insignificant activities shall be defined as any activity or equipment, which emits any amount but does not require an Air Pollutant Emission Notice (APEN).

   Total emissions from the facility, including permitted emissions and insignificant activities, shall not exceed 100 tons per year of any criteria pollutant.

10. The emission points in the table below shall be operated and maintained with the control equipment as listed in order to reduce emissions to less than or equal to the limits established in this permit (Reference: Regulation No.3, Part B, Section III.E.)

Facility Equipment ID	AIRS Point	Control Device	Pollutants Controlled
Tanks	**001**	Enclosed Flare	VOC & HAPs
PW	**002**	Enclosed Flare	VOC & HAPs
TLO	**003**	Enclosed Flare	VOC & HAPs
Flare	**004**	Open Flare	VOC & HAPs
Fugitives	**005**	Monthly Valve Monitoring	VOC & HAPs
GL Comp1	**006**	Catalytic Oxidizer with AFRC	CO, VOC, & HCHO
GL Comp2	**007**	Catalytic Oxidizer with AFRC	CO, VOC, & HCHO
WH Comp1	**008**	Catalytic Reducer with AFRC	NOx, CO, VOC, and HCHO
WH Comp2	**009**	Catalytic Reducer with AFRC	NOx, CO, VOC, and HCHO
VRU Comp1	**010**	Catalytic Reducer with AFRC	NOx, CO, & VOC

PROCESS LIMITATIONS AND RECORDS

11. This source shall be limited to the following maximum processing rates as listed below. Monthly records of the actual processing rates shall be maintained by the owner or

operator and made available to the Division for inspection upon request. (Reference: Regulation 3, Part B, II.A.4)

Process/Consumption Limits

Facility Equipment ID	AIRS Point	Process Parameter	Annual Limit
Tanks	**001**	Condensate Throughput	2,700,000 BBL/yr
PW	**002**	Produced Water Throughput	1,000,000 BBL/yr
TLO	**003**	Condensate loading	2,700,000 BBL/yr
Flare	**004**	Natural gas flaring	40 MMscf/yr
Fugitives	**005**	NA	---
GL Comp1	**006**	Consumption of natural gas as fuel	76.5 MMscf/yr
GL Comp2	**007**	Consumption of natural gas as fuel	76.5 MMscf/yr
WH Comp1	**008**	Consumption of natural gas as fuel	18.4 MMscf/yr
WH Comp2	**009**	Consumption of natural gas as fuel	18.4 MMscf/yr
VRU Comp1	**010**	Consumption of natural gas as fuel	6.1 MMscf/yr
Gen1	**011**	Consumption of natural gas as fuel	24.0 MMscf/yr
Gen2	**012**	Consumption of diesel as fuel	117,384 gal/yr

Compliance with the annual throughput limits shall be determined on a rolling twelve (12) month total. By the end of each month a new twelve-month total is calculated based on the previous twelve months' data. The permit holder shall calculate throughput each month and keep a compliance record on site or at a local field office with site responsibility, for Division review.

12. **Point 003:** Condensate loading to truck tanks shall be conducted by submerged fill. (Reference: Regulation 3, Part B, III.E)

STATE AND FEDERAL REGULATORY REQUIREMENTS

13. The permit number and AIRS ID point number (e.g. 123/4567/890) shall be marked on the subject equipment for ease of identification. (Reference: Regulation Number 3, Part B, III.E.) (State only enforceable)

14. **Points 006-012:** Visible emissions shall not exceed twenty percent (20%) opacity during normal operation of the source. During periods of startup, process modification, or adjustment of control equipment visible emissions shall not exceed 30% opacity for more than six minutes in any sixty consecutive minutes. Emission control devices subject to Regulation 7, Sections XII.C.1.d or XVII.B.1.c shall have no visible emissions. (Reference: Regulation No. 1, Section II.A.1. & 4.)

15. This source is subject to the odor requirements of Regulation No. 2. (State only enforceable)

16. **Points 003 and 004**: No owner or operator of a smokeless flare or other flare for the combustion of waste gases shall allow or cause emissions into the atmosphere of any air pollutant which is in excess of 30% opacity for a period or periods aggregating more than six minutes in any sixty consecutive minutes. (Reference: Regulation No. 1, Section II.A.5.)

17. **Points 001 and 002**: The flare covered by this permit is subject to Regulation No. 7, Section XVII.B General Provisions (State only enforceable). These requirements include, but are not limited to:

XVII.B.1.b If a flare or other combustion device is used to control emissions of volatile organic compounds to comply with Section XVII, it shall be enclosed, have no visible emissions during normal operations, and be designed so that an observer can, by means of visual observation from the outside of the enclosed flare or combustion device, or by other convenient means approved by the Division, determine whether it is operating properly. The operator shall comply with all applicable requirements of Section XVII.

XVII.B.2.d.(ii) All combustion devices installed before May 1, 2014, must be equipped with an operational auto-igniter by or before May 1, 2016, or after the next combustion device planned shutdown, whichever comes first.

18. **Point 001:** The storage tanks covered by this permit are subject to Regulation 7, Section XVII.C emission control requirements. These requirements include, but are not limited to:

Section XVII.C.1. Control and monitoring requirements for storage tanks

XVII.C.1.b. Owners or operators of storage tanks with uncontrolled actual emissions of VOCs equal to or greater than six (6) tons per year based on a rolling twelve-month total must operate air pollution control equipment that achieves an average hydrocarbon control efficiency of 95%. If a combustion device is used, it must have a design destruction efficiency of at least 98% for hydrocarbons.

XVII.C.1.b.(i)(b) Control requirements of Section XVII.C.1.b. must be achieved by May 1, 2015.

XVII.C.1.d. Beginning May 1, 2014, or the applicable compliance date in Section XVII.C.1.b.(i), whichever comes later, owners or operators of storage tanks constructed before May 1, 2014 subject to Section XVII.C.1. must conduct audio, visual, olfactory ("AVO") and additional visual inspections of the storage tank and any associated equipment (e.g. separator, air pollution control equipment, or other pressure reducing equipment) at the same frequency as liquids are loaded out from the storage tank. These inspections are not required more frequently than every seven (7) days but must be conducted at least every thirty one (31) days. Monitoring is not required for storage tanks or associated equipment that are unsafe, difficult, or inaccessible to monitor, as defined in Section XVII.C.1.e. The additional visual inspections must include, at a minimum:

XVII.C.1.d.(i) Visual inspection of any thief hatch, pressure relief valve, or other access point to ensure that they are closed and properly sealed;

XVII.C.1.d.(ii) Visual inspection or monitoring of the air pollution control equipment to ensure that it is operating, including that the pilot light is lit on combustion devices used as air pollution control equipment;

XVII.C.1.d.(iii) If a combustion device is used, visual inspection of the auto-igniter and valves for piping of gas to the pilot light to ensure they are functioning properly;

XVII.C.1.d.(iv) Visual inspection of the air pollution control equipment to ensure that the valves for the piping from the storage tank to the air pollution control equipment are open; and

XVII.C.1.d.(v) If a combustion device is used, inspection of the device for the presence or absence of smoke. If smoke is observed, either the equipment must be immediately shut-in to investigate the potential cause for smoke and perform repairs, as necessary, or EPA Method 22 must be conducted to determine whether visible emissions are present for a period of at least one (1) minute in fifteen (15) minutes.

XVII.C.1.e. If storage tanks or associated equipment is unsafe, difficult, or inaccessible to monitor, the owner or operator is not required to monitor such equipment until it becomes feasible to do so.

XVII.C.2. Capture and monitoring requirements for storage tanks that are fitted with air pollution control equipment as required by Sections XII.D. or XVII.C.1.

XVII.C.2.a. Owners or operators of storage tanks must route all hydrocarbon emissions to air pollution control equipment, and must operate without venting hydrocarbon emissions from the thief hatch (or other access point to the tank) or pressure relief device during normal operation, unless venting is reasonably required for maintenance, gauging, or safety of personnel and equipment. Compliance must be achieved in accordance with the schedule in Section XVII.C.2.b.(ii).

XVII.C.2.b. Owners or operators of storage tanks subject to the control requirements of Sections XII.D.2., XVII.C.1.a, or XVII.C.1.b. must develop, certify, and implement a documented Storage Tank Emission Management System ("STEM") plan to identify, evaluate, and employ appropriate control technologies, monitoring practices, operational practices, and/or other strategies designed to meet the requirements set forth in Section XVII.C.2.a. Owners or operators must update the STEM plan as necessary to achieve or maintain compliance. Owners or operators are not required to develop and implement STEM for storage tanks containing only stabilized liquids. The minimum elements of STEM are listed below.

XVII.C.2.b.(i) STEM must include selected control technologies, monitoring practices, operational practices, and/or other strategies; procedures for evaluating ongoing storage tank emission capture performance; and monitoring in accordance with approved instrument monitoring methods following the applicable schedule in Section XVII.C.2.b.(ii) and Inspection Frequency in Table 1.

XVII.C.2.b.(ii) Owners or operators must achieve the requirements of Sections XVII.C.2.a. and XVII.C.2.b. and begin implementing the required approved instrument monitoring method in accordance with the following schedule:

XVII.C.2.b.(ii)(b) A storage tank constructed before May 1, 2014, must comply with the requirements of Sections XVII.C.2.a. and XVII.C.2.b. by May 1, 2015. Approved instrument monitoring method inspections must begin within ninety (90) days of the Phase-In Schedule in Table 1, or within

thirty (30) days for storage tanks with uncontrolled actual VOC emissions greater than 50 tons per year.

XVII.C.2.b.(ii)(d) Following the first approved instrument monitoring method inspection, owners or operators must continue conducting approved instrument monitoring method inspections in accordance with the Inspection Frequency in Table 1.

Table 1 – Storage Tank Inspections		
Threshold: Storage Tank Uncontrolled Actual VOC Emissions (tpy)	Approved Instrument Monitoring Method Inspection Frequency	Phase-In Schedule
≥ 6 and ≤ 12	Annually	January 1, 2016
> 12 and ≤ 50	Quarterly	July 1, 2015
> 50	Monthly	January 1, 2015

XVII.C.2.b.(iii) Owners or operators are not required to monitor storage tanks and associated equipment that are unsafe, difficult, or inaccessible to monitor, as defined in Section XVII.C.1.e.

XVII.C.2.b.(iv) STEM must include a certification by the owner or operator that the selected STEM strategy(ies) are designed to minimize emissions from storage tanks and associated equipment at the facility(ies), including thief hatches and pressure relief devices.

XVII.C.3. Recordkeeping

XVII.C.3. The owner or operator of each storage tank subject to Sections XII.D. or XVII.C. must maintain records of STEM, if applicable, including the plan, any updates, and the certification, and make them available to the Division upon request. In addition, for a period of two (2) years, the owner or operator must maintain records of any required monitoring and make them available to the Division upon request, including:

XVII.C.3.a. The AIRS ID for the storage tank.

XVII.C.3.b. The date and duration of any period where the thief hatch, pressure relief device, or other access point are found to be venting hydrocarbon emissions, except for venting that is reasonably required for maintenance, gauging, or safety of personnel and equipment.

XVII.C.3.c. The date and duration of any period where the air pollution control equipment is not operating.

XVII.C.3.d. Where a combustion device is being used, the date and result of any EPA Method 22 test or investigation pursuant to Section XVII.C.1.d.(v).

XVII.C.3.e. The timing of and efforts made to eliminate venting, restore operation of air pollution control equipment, and mitigate visible emissions.

XVII.C.3.f. A list of equipment associated with the storage tank that is designated as unsafe, difficult, or inaccessible to monitor, as described in Section XVII.C.1.e., an explanation stating why the equipment is so designated, and the plan for monitoring such equipment.

19. **Point 003**: The owner or operator shall follow loading procedures that minimize the leakage of VOCs to the atmosphere including, but not limited to (Reference: Regulation 3, Part B, III.E):

    a. Hoses, couplings, and valves shall be maintained to prevent dripping, leaking, or other liquid or vapor loss during loading and unloading.

    b. All compartment hatches (including thief hatches) shall be closed and latched at all times when loading operations are not active, except for periods of maintenance, gauging, or safety of personnel and equipment.

    c. The owner or operator shall inspect loading equipment and operations on site at the time of the inspection to ensure compliance with Condition 19 (a) and (b) above. The inspections shall occur at least monthly. Each inspection shall be documented in a log available to the Division on request.

20. **Point 003**: All hydrocarbon liquid loading operations, regardless of size, shall be designed, operated and maintained so as to minimize leakage of volatile organic compounds to the atmosphere to the maximum extent practicable.

21. **Point 012:** This engine is subject to the New Source Performance Standards requirements of Regulation No. 6, Part A, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE) including, but not limited to, the following:

    a. Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in 40 CFR 60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

    b. All fuel used shall meet the following specifications:

        (i) Sulfur content shall not exceed 15 ppm.

        (ii) Have a minimum cetane index of 40 **or**

            Have a maximum aromatic compound content of 35% by volume.

        Compliance shall be demonstrated by maintaining copies of the fuel specifications provided by the supplier on-site or in a readily accessible location and made available to the Division for inspection upon request.

    c. All engines and control devices must be installed, configured, operated, and maintained according to the specifications and instructions provided by the engine manufacturer.

    d. If the engine is equipped with a diesel particulate filter, the filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. Records shall be kept of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit is approached. If the engine is an

emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine per Subpart IIII §60.4209(a).

22. **Point 012:** The following requirements of Regulation No. 6, Part A, Subpart A, General Provisions, including but not limited to, apply:

    a. At all times, including periods of start-up, shutdown, and malfunction, the facility and control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether or not acceptable operating and maintenance procedures are being used will be based on information available to the Division, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (Reference: Regulation No. 6, Part A. General Provisions from 40 CFR 60.11

    b. No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. (§ 60.12)

OPERATING & MAINTENANCE REQUIREMENTS

23. **Points 001-010**: Upon issuance of this permit, the owner or operator shall follow the most recent operating and maintenance (O&M) plan and record keeping format approved by the Division, in order to demonstrate compliance on an ongoing basis with the requirements of this permit. Revisions to your O&M plan are subject to Division approval prior to implementation. (Reference: Regulation No. 3, Part B, Section III.G.7.)

24. **Points 011 and 012**: This source is not required to follow a Division-approved operating and maintenance plan for these emission points.

COMPLIANCE TESTING AND SAMPLING

Initial Testing Requirements

25. **Points 001 and 004**: The owner or operator shall demonstrate compliance with the no visible emissions requirement, using EPA Method 22 to measure opacity from the flare. The observation period shall be a minimum of fifteen consecutive minutes.

26. **Point 004**: The operator shall complete an initial site specific extended gas analysis of the natural gas produced at this site in order to verify the VOC, benzene, toluene, ethylbenzene, xylenes, n-hexane, and 2,2,4-trimethylpentane content (weight fraction) of this emission stream used in the permit application. Results of testing shall be used to determine site-specific emission factors using Division approved methods. Results of site-specific sampling and analysis shall be submitted to the Division as part of the self-certification and used to demonstrate compliance with the emissions factors chosen for this emissions point.

27. **Point 005:** Within one hundred and eighty days (180) after issuance of this permit, the owner or operator shall complete the initial extended gas analysis of gas samples that are representative of volatile organic compound (VOC) that may be released as fugitive emissions. This extended gas analysis shall be used in the compliance demonstration as required in the Emission Limits and Records section of this permit. The operator shall submit the results of the gas analysis and emission calculations to the Division as part of the self-certification process to ensure compliance with emissions limits.

28. **Point 005:** Within one hundred and eighty days (180) after issuance of this permit, the operator shall complete a hard count of components at the source and establish the number of components that are operated in “heavy liquid service”, “light liquid service”, "water/oil service" and “gas service”. The operator shall submit the results to the Division as part of the self-certification process to ensure compliance with emissions limits.

29. **Points 006-009**: A source initial compliance test shall be conducted on emissions points 006, 007, 008, and 009 to measure the emission rate(s) for the pollutants listed below in order to demonstrate compliance with the emission limits in this permit. The test protocol must be in accordance with the requirements of the Air Pollution Control Division Compliance Test Manual and shall be submitted to the Division for review and approval at least thirty (30) days prior to testing. No compliance test shall be conducted without prior approval from the Division. Any compliance test conducted to show compliance with a monthly or annual emission limitation shall have the results projected up to the monthly or annual averaging time by multiplying the test results by the allowable number of operating hours for that averaging time (Reference: Regulation No. 3, Part B., Section III.G.3)

Oxides of Nitrogen using EPA approved methods.
Carbon Monoxide using EPA approved methods.
Formaldehyde

30. **Points 010 and 011**: A source initial compliance test shall be conducted on emissions points 010 and 011 to measure the emission rate(s) for the pollutants listed below in order to demonstrate compliance with the emission limits in this permit. The test protocol must be in accordance with the requirements of the Air Pollution Control Division Compliance Test Manual and shall be submitted to the Division for review and approval at least thirty (30) days prior to testing. No compliance test shall be conducted without prior approval from the Division. Any compliance test conducted to show compliance with a monthly or annual emission limitation shall have the results projected up to the monthly or annual averaging time by multiplying the test results by the allowable number of operating hours for that averaging time (Reference: Regulation No. 3, Part B., Section III.G.3)

Oxides of Nitrogen using EPA approved methods.
Carbon Monoxide using EPA approved methods.

31. **Point 012:** The owner or operator shall demonstrate compliance with Condition 14, using EPA Method 9 to measure opacity from this source. The opacity shall be measured and interpreted as an average of the readings taken over fifteen (15) second intervals for a total of six (6) minutes. (Reference: Regulation No. 1, Section II.A.1 & 4)

Periodic Testing Requirements

32. **Points 004:** On an annual basis, the operator shall complete a site specific extended gas analysis of the natural gas produced at this site that is routed to the flare in order to verify the VOC content (weight fraction) of this emission stream used in the permit application. Results of testing shall be used to determine site-specific emission factors using Division approved methods.

33. **Point 005:** On an annual basis, the owner or operator shall complete an extended gas analysis of gas samples that are representative of volatile organic compounds (VOC) and hazardous air pollutants (HAP) that may be released as fugitive emissions. This extended gas analysis shall be used in the compliance demonstration as required in the Emission Limits and Records section of this permit.

34. **Points 006-010**: These engines are subject to the periodic testing requirements as specified in the operating and maintenance (O&M) plan as approved by the Division. Revisions to your O&M plan are subject to Division approval. Replacements of this unit completed as Alternative Operating Scenarios may be subject to additional testing requirements as specified in Attachment A.

ADDITIONAL REQUIREMENTS

35. A revised Air Pollutant Emission Notice (APEN) shall be filed: (Reference: Regulation No. 3, Part A, II.C)

    a. Annually by April 30th whenever a significant increase in emissions occurs as follows:

       For any criteria pollutant:

       For sources emitting **less than 100 tons per year**, a change in actual emissions of five (5) tons per year or more, above the level reported on the last APEN; or

       For sources emitting **100 tons per year or more**, a change in actual emissions of five percent or 50 tons per year or more, whichever is less, above the level reported on the last APEN submitted; or

       For any non-criteria reportable pollutant:

       If the emissions increase by 50% or five (5) tons per year, whichever is less, above the level reported on the last APEN submitted to the Division.

    b. Whenever there is a change in the owner or operator of any facility, process, or activity; or

    c. Whenever new control equipment is installed, or whenever a different type of control equipment replaces an existing type of control equipment; or

    d. Whenever a permit limitation must be modified; or

    e. No later than 30 days before the existing APEN expires.

    f. **Points 006-011:** Within 14 calendar days of commencing operation of a permanent replacement engine under the alternative operating scenario outlined in this permit as Attachment A. The APEN shall include the specific manufacturer, model and serial number and horsepower of the permanent replacement engine, the appropriate APEN filing fee and a cover letter explaining

that the owner or operator is exercising an alternative-operating scenario and is installing a permanent replacement engine.

g. **Point 012:** Within 14 calendar days of commencing operation of a permanent replacement engine under the alternative operating scenario outlined in this permit as Attachment B. The APEN shall include the specific manufacturer, model and serial number and horsepower of the permanent replacement engine, the appropriate APEN filing fee and a cover letter explaining that the owner or operator is exercising an alternative-operating scenario and is installing a permanent replacement engine.

36. Federal regulatory program requirements (i.e. PSD, NANSR or Title V Operating Permit) shall apply to this source at any such time that this source becomes major solely by virtue of a relaxation in any permit condition. Any relaxation that increases the potential to emit above the applicable Federal program threshold will require a full review of the source as though construction had not yet commenced on the source. The source shall not exceed the Federal program threshold until a permit is granted. (Regulation No. 3 Part D).

37. MACT Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities major stationary source requirements shall apply to this stationary source at any such time that this stationary source becomes major solely by virtue of a relaxation in any permit limitation and shall be subject to all appropriate applicable requirements of Subpart HH. (Reference: Regulation No. 8, Part E)

GENERAL TERMS AND CONDITIONS

38. This permit and any attachments must be retained and made available for inspection upon request. The permit may be reissued to a new owner by the APCD as provided in AQCC Regulation No. 3, Part B, Section II.B upon a request for transfer of ownership and the submittal of a revised APEN and the required fee.

39. If this permit specifically states that final authorization has been granted, then the remainder of this condition is not applicable. Otherwise, the issuance of this construction permit does not provide "final" authority for this activity or operation of this source. Final authorization of the permit must be secured from the APCD in writing in accordance with the provisions of 25-7-114.5(12)(a) C.R.S. and AQCC Regulation No. 3, Part B, Section III.G. Final authorization cannot be granted until the operation or activity commences and has been verified by the APCD as conforming in all respects with the conditions of the permit. Once self-certification of all points has been reviewed and approved by the Division, it will provide written documentation of such final authorization. **Details for obtaining final authorization to operate are located in the Requirements to Self-Certify for Final Authorization section of this permit.**

40. This permit is issued in reliance upon the accuracy and completeness of information supplied by the owner or operator and is conditioned upon conduct of the activity, or construction, installation and operation of the source, in accordance with this information and with representations made by the owner or operator or owner or operator's agents. It is valid only for the equipment and operations or activity specifically identified on the permit.

41. Unless specifically stated otherwise, the general and specific conditions contained in this permit have been determined by the APCD to be necessary to assure compliance with the provisions of Section 25-7-114.5(7)(a), C.R.S.

42. Each and every condition of this permit is a material part hereof and is not severable. Any challenge to or appeal of a condition hereof shall constitute a rejection of the entire permit and upon such occurrence, this permit shall be deemed denied *ab initio*. This permit may be revoked at any time prior to self-certification and final authorization by the Air Pollution Control Division (APCD) on grounds set forth in the Colorado Air Quality Control Act and regulations of the Air Quality Control Commission (AQCC), including failure to meet any express term or condition of the permit. If the Division denies a permit, conditions imposed upon a permit are contested by the owner or operator, or the Division revokes a permit, the owner or operator of a source may request a hearing before the AQCC for review of the Division's action.

43. Section 25-7-114.7(2)(a), C.R.S. requires that all sources required to file an Air Pollution Emission Notice (APEN) must **pay an annual fee** to cover the costs of inspections and administration. If a source or activity is to be discontinued, the owner must notify the Division in writing requesting a cancellation of the permit. Upon notification, annual fee billing will terminate.

44. Violation of the terms of a permit or of the provisions of the Colorado Air Pollution Prevention and Control Act or the regulations of the AQCC may result in administrative, civil or criminal enforcement actions under Sections 25-7-115 (enforcement), -121 (injunctions), -122 (civil penalties), -122.1 (criminal penalties), C.R.S.

By: _____

Oluwaseun Ogungbenle
Permit Engineer

Permit History

Issuance	Date	Description
Issuance 1	This Issuance	Issued to Noble Energy, Inc. for a new E&P site.

Notes to Permit Holder at the time of this permit issuance:

1) The permit holder is required to pay fees for the processing time for this permit. An invoice for these fees will be issued after the permit is issued. The permit holder shall pay the invoice within 30 days of receipt of the invoice. Failure to pay the invoice will result in revocation of this permit (Reference: Regulation No. 3, Part A, Section VI.B.)

2) The production or raw material processing limits and emission limits contained in this permit are based on the consumption rates requested in the permit application. These limits may be revised upon request of the owner or operator providing there is no exceedance of any specific emission control regulation or any ambient air quality standard. A revised air pollution emission notice (APEN) and complete application form must be submitted with a request for a permit revision.

3) This source is subject to the Common Provisions Regulation Part II, Subpart E, Affirmative Defense Provision for Excess Emissions During Malfunctions. The owner or operator shall notify the Division of any malfunction condition which causes a violation of any emission limit or limits stated in this permit as soon as possible, but no later than noon of the next working day, followed by written notice to the Division addressing all of the criteria set forth in Part II.E.1 of the Common Provisions Regulation. See: http://www.colorado.gov/cs/Satellite?c=Document_C&childpagename=CDPHE-Main%2FDocument_C%2FCBONAddLinkView&cid=1251599389641&pagename=CBONWrapper

4) The following emissions of non-criteria reportable air pollutants are estimated based upon the process limits as indicated in this permit. This information is listed to inform the operator of the Division's analysis of the specific compounds emitted if the source(s) operate at the permitted limitations.

AIRS Point	Pollutant	CAS #	Uncontrolled Emission Rate (lb/yr)	Are the emissions reportable?	Controlled Emission Rate (lb/yr)
001	Benzene	71432	14850	Yes	743
	n-Hexane	110543	97200	Yes	4860
002	Benzene	71432	7000	Yes	350
	n-Hexane	110543	22000	Yes	1100
003	Benzene	71432	3931	Yes	197
	Toluene	108883	5678	Yes	284
	Ethylbenzene	100414	437	Yes	22
	Xylenes	1330207	2184	Yes	109
	n-Hexane	110543	6989	Yes	349
004	Benzene	71432	4917	Yes	246
	Toluene	108883	4917	Yes	246
	Ethylbenzene	100414	2458	Yes	123
	Xylenes	1330207	2458	Yes	123
	n-Hexane	110543	14750	Yes	737
	2,2,4-TMP	540841	2458	Yes	123
005	Benzene	71432	3936	Yes	2145

	Toluene	108883	3936	Yes	2145
	Ethylbenzene	100414	577	Yes	322
	Xylenes	1330207	577	Yes	322
	n-Hexane	110543	7174	Yes	3936
006	Formaldehyde	50000	11,727	Yes	2,665
	Acetaldehyde	75070	831	Yes	831
	Acrolein	107028	511	Yes	511
	Methanol	67561	249	No	249
	n-Hexane	110543	110	No	110
	Benzene	71432	44	No	44
	Toluene	108883	41	No	41
007	Formaldehyde	50000	11,727	Yes	2,665
	Acetaldehyde	75070	831	Yes	831
	Acrolein	107028	511	Yes	511
	Methanol	67561	249	No	249
	n-Hexane	110543	110	No	110
	Benzene	71432	44	No	44
	Toluene	108883	41	No	41
008	Formaldehyde	50000	1,282	Yes	321
	Methanol	67561	73	No	73
	Acetaldehyde	75070	67	No	67
	Acrolein	107028	63	No	63
	Benzene	71432	38	No	38
	1,3-Butadiene	106990	16	No	16
	Toluene	108883	13	No	13
009	Formaldehyde	50000	1,282	Yes	321
	Methanol	67561	73	No	73
	Acetaldehyde	75070	67	No	67
	Acrolein	107028	63	No	63
	Benzene	71432	38	No	38
	1,3-Butadiene	106990	16	No	16
	Toluene	108883	13	No	13
010	Formaldehyde	50000	163	No	163
	Methanol	67561	24	No	24

	Acetaldehyde	75070	22	No	22
	Acrolein	107028	21	No	21
	Benzene	71432	13	No	13
	1,3-Butadiene	106990	5	No	5
	Toluene	108883	4	No	4
011	Formaldehyde	50000	638	Yes	638
	Methanol	67561	95	No	95
	Acetaldehyde	75070	87	No	87
	Acrolein	107028	82	No	82
	Benzene	71432	49	No	49
	1,3-Butadiene	106990	21	No	21
	Toluene	108883	17	No	17
012	Formaldehyde	50000	20	No	20

5) The emission levels contained in this permit are based on the following emission factors:

Point 001:

Pollutant	Emission Factors Uncontrolled lb/BBL Condensate Throughput	Emission Factors Controlled lb/BBL Condensate Throughput	Source
VOC	0.78	0.039	EPA TANKS 4.09d
n-Hexane	0.036	1.8E-03	EPA TANKS 4.09d
Benzene	0.0055	2.75E-04	EPA TANKS 4.09d

Note: The controlled emissions factors for point 001 are based on a flare control efficiency of 95%.

Point 002:

Pollutant	Emission Factors Uncontrolled lb/BBL Produced Water Throughput	Emission Factors Uncontrolled lb/BBL Produced Water Throughput	Source
VOC	0.262	0.0131	PS Memo 09-02
n-Hexane	0.022	0.0011	PS Memo 09-02
Benzene	0.007	0.0004	PS Memo 09-02

Note: The controlled emissions factors for point 002 are based on the flare control efficiency of 95%.

Point 003:

	Pollutant	Emission Factors - Uncontrolled		Emission Factors - Uncontrolled	
		lb/BBL loaded	Source	lb/BBL loaded	Source
	VOC	0.162	AP-42	0.0081	AP-42
71432	Benzene	0.0015	Eng. Calc	7.28E-05	Eng. Calc
108883	Toluene	0.0021	Eng. Calc	1.05E-04	Eng. Calc
100414	Ethylbenzene	0.0002	Eng. Calc	8.09E-06	Eng. Calc
1330207	Xylenes	0.0008	Eng. Calc	4.04E-05	Eng. Calc
110543	n-Hexane	0.0026	Eng. Calc	1.29E-04	Eng. Calc

The uncontrolled VOC emission factor was calculated using AP-42, Chapter 5.2, Equation 1 (version 1/95) using the following values:

L = 12.46*S*P*M/T

S = 0.6 (Submerged loading: dedicated normal service)

P (true vapor pressure) = 3.94 psia

M (vapor molecular weight) = 68 lb/lb-mol

T (temperature of liquid loaded) = 520 °R

The uncontrolled non-criteria reportable air pollutant (NCRP) emission factors were calculated by multiplying the mass fraction of each NCRP in the vapors by the VOC emission factor.

Controlled emission factors are based on a flare efficiency of 95%.

Point 004:

Pollutant	Weight Fraction of Gas (%)	Emission Factors Uncontrolled	Emission Factors Controlled	Source
NOx	---	0.068 lb/MMBtu	0.068 lb/MMBtu	AP-42
CO	---	0.37 lb/MMBtu	0.37 lb/MMBtu	AP-42
VOC	29.01	17835.00 lb/MMscf	891.75 lb/MMscf	Engineering Calculation
Benzene	0.20	122.925 lb/MMscf	6.146 lb/MMscf	Engineering Calculation
Toluene	0.20	122.925 lb/MMscf	6.146 lb/MMscf	Engineering Calculation
Ethylbenzene	0.10	61.450 lb/MMscf	3.073 lb/MMscf	Engineering Calculation
Xylenes	0.10	61.450 lb/MMscf	3.073 lb/MMscf	Engineering Calculation
n-hexane	0.60	368.750 lb/MMscf	18.438 lb/MMscf	Engineering Calculation
2,2,4-TMP	0.10	61.450 lb/MMscf	3.073 lb/MMscf	Engineering Calculation

Point 005:

Component	Gas Service	Heavy Oil	Light Oil	Water/Oil Service
Connectors	2843	179	1682	379
Flanges	493	0	375	48
Open-ended Lines	3	0	0	0
Pump Seals	4	0	0	0
Valves	1598	69	1627	293
Other*	449	40	203	100
VOC Content (wt. fraction)	0.2901	1.0000	1.0000	1.0000
Benzene Content (wt. fraction)	0.0020	0.0000	0.0300	0.0003
Toluene Content (wt. fraction)	0.0020	0.0000	0.0300	0.0003
Ethylbenzene (wt. fraction)	0.0010	0.0000	0.0030	0.0000
Xylenes Content (wt. fraction)	0.0010	0.0000	0.0030	0.0000
n-hexane Content (wt. fraction)	0.0060	0.0000	0.0500	0.0005

*Other equipment type includes compressors, pressure relief valves, relief valves, diaphragms, drains, dump arms, hatches, instrument meters, polish rods and vents

TOC Emission Factors (kg/hr-component):

Component	Gas Service	Heavy Oil	Light Oil	Water/Oil Service
Connectors	2.0E-04	7.5E-06	2.1E-04	1.1E-04
Flanges	3.9E-04	3.9E-07	1.1E-04	2.9E-06
Open-ended Lines	2.0E-03	1.4E-04	1.4E-03	2.5E-04
Pump Seals	2.4E-03	NA	1.3E-02	2.4E-05
Valves	4.5E-03	8.4E-06	2.5E-03	9.8E-05
Other	8.8E-03	3.2E-05	7.5E-03	1.4E-02

Source: EPA-453/R95-017

Compliance with emissions limits in this permit will be demonstrated by using the TOC emission factors listed in the table above with representative component counts, multiplied by the VOC content from the most recent gas analysis.

Point 006:

CAS	Pollutant	Emission Factors - Uncontrolled		Emission Factors – Controlled	
		lb/MMBtu	g/bhp-hr	lb/MMBtu	g/bhp-hr
	NOx	0.1340	0.50	0.1340	0.50
	CO	0.6513	2.43	0.0536	0.20
	VOC	0.1930	0.72	0.0670	0.25
50000	Formaldehyde	0.1179	0.44	0.0268	0.10
75070	Acetaldehyde	0.0084	0.03	0.0084	0.03

CAS	Pollutant	Emission Factors - Uncontrolled		Emission Factors – Controlled	
		lb/MMBtu	g/bhp-hr	lb/MMBtu	g/bhp-hr
107028	Acrolein	0.0051	0.02	0.0051	0.02
67561	Methanol	0.0025	0.01	0.0025	0.01
110543	n-Hexane	0.0011	0.00	0.0011	0.00
71432	Benzene	0.0004	0.00	0.0004	0.00
108883	Toluene	0.0004	0.00	0.0004	0.00

Emission factors are based on a Brake-Specific Fuel Consumption Factor of 8225 Btu/hp-hr, a site-rated horsepower value of 1380, and a fuel heating value of 1300 Btu/scf.

Emission Factor Sources:

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
	NOx	Manufacturer	Manufacturer
	CO	Manufacturer	Manufacturer
	VOC	Manufacturer	Manufacturer
50000	Formaldehyde	Manufacturer	Manufacturer
75070	Acetaldehyde	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
107028	Acrolein	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
67561	Methanol	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
110543	n-Hexane	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
71432	Benzene	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
108883	Toluene	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control

Point 007:

CAS	Pollutant	Emission Factors - Uncontrolled		Emission Factors – Controlled	
		lb/MMBtu	g/bhp-hr	lb/MMBtu	g/bhp-hr
	NOx	0.1340	0.50	0.1340	0.50
	CO	0.6513	2.43	0.0536	0.20
	VOC	0.1930	0.72	0.0670	0.25
50000	Formaldehyde	0.1179	0.44	0.0268	0.10
75070	Acetaldehyde	0.0084	0.03	0.0084	0.03
107028	Acrolein	0.0051	0.02	0.0051	0.02
67561	Methanol	0.0025	0.01	0.0025	0.01
110543	n-Hexane	0.0011	0.00	0.0011	0.00
71432	Benzene	0.0004	0.00	0.0004	0.00
108883	Toluene	0.0004	0.00	0.0004	0.00

Emission factors are based on a Brake-Specific Fuel Consumption Factor of 8225 Btu/hp-hr, a site-rated horsepower value of 1380, and a fuel heating value of 1300 Btu/scf.

Emission Factor Sources:

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
	NOx	Manufacturer	Manufacturer
	CO	Manufacturer	Manufacturer
	VOC	Manufacturer	Manufacturer
50000	Formaldehyde	Manufacturer	Manufacturer

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
75070	Acetaldehyde	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
107028	Acrolein	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
67561	Methanol	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
110543	n-Hexane	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
71432	Benzene	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control
108883	Toluene	AP-42; Table 3.2-2 (7/2000); Natural Gas	No Control

Point 008:

CAS	Pollutant	Emission Factors - Uncontrolled		Emission Factors – Controlled	
		lb/MMBtu	g/bhp-hr	lb/MMBtu	g/bhp-hr
	NOx	4.0927	15.23	0.2687	1.00
	CO	4.0927	15.23	0.5374	2.00
	VOC	0.2257	0.84	0.0376	0.14
50000	Formaldehyde	0.0537	0.20	0.0134	0.05
67561	Methanol	0.0031	0.01	0.0031	0.01
75070	Acetaldehyde	0.0028	0.01	0.0028	0.01
107028	Acrolein	0.0026	0.01	0.0026	0.01
71432	Benzene	0.0016	0.01	0.0016	0.01
106990	1,3-Butadiene	0.0007	0.00	0.0007	0.00
108883	Toluene	0.0006	0.00	0.0006	0.00

Emission factors are based on a Brake-Specific Fuel Consumption Factor of 8204 Btu/hp-hr, a site-rated horsepower value of 332, and a fuel heating value of 1300 Btu/scf.

Emission Factor Sources:

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
	NOx	Manufacturer	Manufacturer
	CO	Manufacturer	Manufacturer
	VOC	Manufacturer	Manufacturer
50000	Formaldehyde	Manufacturer	Manufacturer
67561	Methanol	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
75070	Acetaldehyde	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
107028	Acrolein	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
71432	Benzene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
106990	1,3-Butadiene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
108883	Toluene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control

Point 009:

CAS	Pollutant	Emission Factors - Uncontrolled		Emission Factors – Controlled	
		lb/MMBtu	g/bhp-hr	lb/MMBtu	g/bhp-hr
	NOx	4.0927	15.23	0.2687	1.00
	CO	4.0927	15.23	0.5374	2.00
	VOC	0.2257	0.84	0.0376	0.14
50000	Formaldehyde	0.0537	0.20	0.0134	0.05
67561	Methanol	0.0031	0.01	0.0031	0.01
75070	Acetaldehyde	0.0028	0.01	0.0028	0.01
107028	Acrolein	0.0026	0.01	0.0026	0.01
71432	Benzene	0.0016	0.01	0.0016	0.01
106990	1,3-Butadiene	0.0007	0.00	0.0007	0.00
108883	Toluene	0.0006	0.00	0.0006	0.00

Emission factors are based on a Brake-Specific Fuel Consumption Factor of 8204 Btu/hp-hr, a site-rated horsepower value of 332, and a fuel heating value of 1300 Btu/scf.

Emission Factor Sources:

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
	NOx	Manufacturer	Manufacturer
	CO	Manufacturer	Manufacturer
	VOC	Manufacturer	Manufacturer
50000	Formaldehyde	Manufacturer	Manufacturer
67561	Methanol	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
75070	Acetaldehyde	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
107028	Acrolein	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
71432	Benzene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
106990	1,3-Butadiene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
108883	Toluene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control

Point 010:

CAS	Pollutant	Emission Factors - Uncontrolled		Emission Factors – Controlled	
		lb/MMBtu	g/bhp-hr	lb/MMBtu	g/bhp-hr
	NOx	2.9978	11.24	0.2667	1.00
	CO	2.1470	8.05	0.5334	2.00
	VOC	0.3147	1.18	0.1334	0.50
50000	Formaldehyde	0.0205	0.08	0.0205	0.08
67561	Methanol	0.0031	0.01	0.0031	0.01
75070	Acetaldehyde	0.0028	0.01	0.0028	0.01
107028	Acrolein	0.0026	0.01	0.0026	0.01
71432	Benzene	0.0016	0.01	0.0016	0.01
106990	1,3-Butadiene	0.0007	0.00	0.0007	0.00
108883	Toluene	0.0006	0.00	0.0006	0.00

Emission factors are based on a Brake-Specific Fuel Consumption Factor of 8266 Btu/hp-hr, a site-rated horsepower value of 110, and a fuel heating value of 1300 Btu/scf.

Emission Factor Sources:

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
	NOx	Manufacturer/Reg. 7 limit	Manufacturer/Reg. 7 limit
	CO	Manufacturer/Reg. 7 limit	Manufacturer/Reg. 7 limit
	VOC	Manufacturer/Reg. 7 limit	Manufacturer/Reg. 7 limit
50000	Formaldehyde	AP-42; Table 3.2-3 (7/2000); Natural Gas	AP-42; Table 3.2-3 (7/2000); Natural Gas
67561	Methanol	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
75070	Acetaldehyde	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
107028	Acrolein	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
71432	Benzene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
106990	1,3-Butadiene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
108883	Toluene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control

Point 011:

CAS	Pollutant	Emission Factors - Uncontrolled		Emission Factors – Controlled	
		lb/MMBtu	g/bhp-hr	lb/MMBtu	g/bhp-hr
	NOx	0.1393	0.50	0.1393	0.50
	CO	0.1393	0.50	0.1393	0.50
	VOC	0.1393	0.50	0.1393	0.50
50000	Formaldehyde	0.0205	0.07	0.0205	0.07
67561	Methanol	0.0031	0.01	0.0031	0.01
75070	Acetaldehyde	0.0028	0.01	0.0028	0.01
107028	Acrolein	0.0026	0.01	0.0026	0.01
71432	Benzene	0.0016	0.01	0.0016	0.01
106990	1,3-Butadiene	0.0007	0.00	0.0007	0.00
108883	Toluene	0.0006	0.00	0.0006	0.00

Emission factors are based on a Brake-Specific Fuel Consumption Factor of 7914 Btu/hp-hr, a site-rated horsepower value of 449, and a fuel heating value of 1300 Btu/scf.

Emission Factor Sources:

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
	NOx	Conservative	Operator
	CO	Conservative	Operator
	VOC	Conservative	Operator
50000	Formaldehyde	AP-42; Table 3.2-3 (7/2000); Natural Gas	AP-42; Table 3.2-3 (7/2000); Natural Gas
67561	Methanol	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
75070	Acetaldehyde	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
107028	Acrolein	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
71432	Benzene	AP-42; Table 3.2-3 (7/2000);	No Control

CAS	Pollutant	Uncontrolled EF Source	Controlled EF Source
		Natural Gas	
106990	1,3-Butadiene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control
108883	Toluene	AP-42; Table 3.2-3 (7/2000); Natural Gas	No Control

Point 012:

CAS	Pollutant	Emission Factors - Uncontrolled		Emission Factors - Controlled	
		lb/MMBtu	lb/MMBtu	g/kW-hr	g/kW-hr
	NOx	---	---	5.99	5.99
	CO	---	---	7.38	7.38
	VOC	---	---	0.32	0.32
	SOx	0.29	0.29	---	---
50000	Formaldehyde	0.0008	0.0008	---	---

*Note that these emission factors are based on manufacturer's specifications for maximum load and represent the manufacturer's not-to-exceed values. Emission standards requirements per 40 CFR 60 Subpart IIII are based on a weighted cycle average.

6) In accordance with C.R.S. 25-7-114.1, each Air Pollutant Emission Notice (APEN) associated with this permit is valid for a term of five years from the date it was received by the Division. A revised APEN shall be submitted no later than 30 days before the five-year term expires. Please refer to the most recent annual fee invoice to determine the APEN expiration date for each emissions point associated with this permit. For any questions regarding a specific expiration date call the Division at (303)-692-3150.

7) **Points 006-011**: These engines are subject to 40 CFR, Part 60, **Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines** (See January 18, 2008 Federal Register posting – effective March 18, 2008). This rule has not yet been incorporated into Colorado Air Quality Control Commission's Regulation No. 6. A copy of the complete subpart is available on the EPA website at: http://www.epa.gov/ttn/atw/area/fr18ja08.pdf

8) **Points 006-012:** These engines are subject to 40 CFR, Part 63, Subpart ZZZZ - **National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines**. (See January 18, 2008 Federal Register posting - effective March 18, 2008). The January 18, 2008 amendments to include requirements for area sources and engines ≤ 500 hp located at major sources have not yet been incorporated into Colorado Air Quality Control Commission's Regulation No. 8. A copy of the complete subpart is available on the EPA website at: http://www.epa.gov/ttn/atw/area/fr18ja08.pdf Additional information regarding area source standards can be found on the EPA website at: http://www.epa.gov/ttn/atw/area/arearules.html

9) This facility is classified as follows:

Applicable Requirement	Status
Operating Permit	Synthetic Minor Source of: NOx, CO, VOC, Benzene, formaldehyde, n-Hexane, and total HAPs
PSD	Synthetic Minor Source of VOC
MACT HH	Major Source Requirements: Not Applicable Area Source Requirements: Applicable
NSPS JJJJ	Applicable

10) Full text of the Title 40, Protection of Environment Electronic Code of Federal Regulations can be found at the website listed below:

http://ecfr.gpoaccess.gov/

Part 60: Standards of Performance for New Stationary Sources		
NSPS	60.1-End	Subpart A – Subpart KKKK
NSPS	Part 60, Appendixes	Appendix A – Appendix I
Part 63: National Emission Standards for Hazardous Air Pollutants for Source Categories		
MACT	63.1-63.599	Subpart A – Subpart Z
MACT	63.600-63.1199	Subpart AA – Subpart DDD
MACT	63.1200-63.1439	Subpart EEE – Subpart PPP
MACT	63.1440-63.6175	Subpart QQQ – Subpart YYYY
MACT	63.6580-63.8830	Subpart ZZZZ – Subpart MMMMM
MACT	63.8980-End	Subpart NNNNN – Subpart XXXXXX

11) A self certification form and guidance on how to self-certify compliance as required by this permit may be obtained online at: http://www.colorado.gov/pacific/cdphe/air-permit-self-certification

ATTACHMENT A:

ALTERNATIVE OPERATING SCENARIOS

STATIONARY SPARK IGNITION (SI) ENGINE

October 12, 2012

2. Alternative Operating Scenarios

The following Alternative Operating Scenario (AOS) for the temporary and permanent replacement of natural gas fired reciprocating internal combustion engines has been reviewed in accordance with the requirements of Regulation No. 3., Part A, Section IV.A, Operational Flexibility-Alternative Operating Scenarios, Regulation No. 3, Part B, Construction Permits, and Regulation No. 3, Part D, Major Stationary Source New Source Review and Prevention of Significant Deterioration, and it has been found to meet all applicable substantive and procedural requirements. This permit incorporates and shall be considered a Construction Permit for any engine replacement performed in accordance with this AOS, and the owner or operator shall be allowed to perform such engine replacement without applying for a revision to this permit or obtaining a new Construction Permit.

2.1 Engine Replacement

The following AOS is incorporated into this permit in order to deal with a compressor engine breakdown or periodic routine maintenance and repair of an existing onsite engine that requires the use of either a temporary or permanent replacement engine. "Temporary" is defined as in the same service for 90 operating days or less in any 12 month period. "Permanent" is defined as in the same service for more than 90 operating days in any 12 month period. The 90 days is the total number of days that the engine is in operation. If the engine operates only part of a day, that day shall count as a single day towards the 90 day total. The compliance demonstrations and any periodic monitoring required by this AOS are in addition to any compliance demonstrations or periodic monitoring required by this permit.

All replacement engines are subject to all federally applicable and state-only requirements set forth in this permit (including monitoring and record keeping).

The results of all tests and the associated calculations required by this AOS shall be submitted to the Division within 30 calendar days of the test or within 60 days of the test if such testing is required to demonstrate compliance with NSPS or MACT requirements.
Results of all tests shall be kept on site for five (5) years and made available to the Division upon request.

The owner or operator shall maintain a log on-site and contemporaneously record the start and stop date of any engine replacement, the manufacturer, date of manufacture, model number, horsepower, and serial number of the engine(s) that are replaced during the term of this permit, and the manufacturer, model number, horsepower, and serial number of the replacement engine. In addition to the log, the owner or operator shall maintain a copy of all Applicability Reports required under section 2.1.2 and make them available to the Division upon request.

2.1.1 The owner or operator may **temporarily** replace an existing compressor engine that is subject to the emission limits set forth in this permit with an engine that is of the same manufacturer, model, and horsepower or a different manufacturer, model, or horsepower as the existing engine without modifying this permit, so long as the temporary replacement engine complies with all permit limitations and other requirements applicable to the existing engine. Measurement of emissions from the temporary replacement engine shall be made as set forth in section 2.2.

2.1.2 The owner or operator may **permanently** replace the existing compressor engine with another engine with the same manufacturer, model, and horsepower engines without modifying this permit so long as the permanent replacement engine complies with all permit limitations and other requirements applicable to the existing engine as well as any new applicable requirements for the replacement engine. Measurement of emissions from the permanent replacement engine and compliance with the applicable emission limitations shall be made as set forth in section 2.2.

An Air Pollutant Emissions Notice (APEN) that includes the specific manufacturer, model and serial number and horsepower of the permanent replacement engine shall be filed with the Division for the permanent replacement engine within 14 calendar days of commencing operation of the replacement engine. The APEN shall be accompanied by the appropriate APEN filing fee, a cover letter explaining that the owner or operator is exercising an alternative operating scenario and is installing a permanent replacement engine, and a copy of the relevant Applicability Reports for the replacement engine. Example Applicability
Reports can be found at http://www.cdphe.state.co.us/ap/oilgaspermitting.html. This submittal shall be accompanied by a certification from the Responsible Official indicating that "based on the information and belief formed after reasonable inquiry, the statements and information included in the submittal are true, accurate and complete".

This AOS cannot be used for permanent engine replacement of a grandfathered or permit exempt engine or an engine that is not subject to emission limits.

The owner or operator shall agree to pay fees based on the normal permit processing rate for review of information submitted to the Division in regard to any permanent engine replacement.

2.2 Portable Analyzer Testing

Note: In some cases there may be conflicting and/or duplicative testing requirements due to overlapping Applicable Requirements. In those instances, please contact the Division Field Services Unit to discuss streamlining the testing requirements.

Note that the testing required by this Condition may be used to satisfy the periodic testing requirements specified by the permit for the relevant time period (i.e. if the permit requires quarterly portable analyzer testing, this test conducted under the AOS will serve as the quarterly test and an additional portable analyzer test is not required for another three months).

The owner or operator may conduct a reference method test, in lieu of the portable analyzer test required by this Condition, if approved in advance by the Division.

The owner or operator shall measure nitrogen oxide (NO_X) and carbon monoxide (CO) emissions in the exhaust from the replacement engine using a portable flue gas analyzer *within seven (7) calendar days of commencing operation of the replacement engine*.

All portable analyzer testing required by this permit shall be conducted using the Division's Portable Analyzer Monitoring Protocol (ver March 2006 or newer) as found on the Division's web site at: http://www.colorado.gov/cs/Satellite/CDPHE-AP/CBON/1251596520270.

Results of the portable analyzer tests shall be used to monitor the compliance status of this unit.

For comparison with an annual (tons/year) or short term (lbs/unit of time) emission limit, the results of the tests shall be converted to a lb/hr basis and multiplied by the allowable operating hours in the month or year (whichever applies) in order to monitor compliance. If a source is not limited in its hours of operation the test results will be multiplied by the maximum number of hours in the month or year (8760), whichever applies.

For comparison with a short-term limit that is either input based (lb/MMBtu), output based (g/hp-hr) or concentration based (ppmvd @ 15% O_2) that the existing unit is currently subject to or the replacement engine will be subject to, the results of the test shall be converted to the appropriate units as described in the above-mentioned Portable Analyzer Monitoring Protocol document.

If the portable analyzer results indicate compliance with both the NO_X and CO emission limitations, in the absence of credible evidence to the contrary, the source may certify that the engine is in compliance with both the NO_X and CO emission limitations for the relevant time period.

Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, if the portable analyzer results fail to demonstrate compliance with either the NO_X or CO emission limitations, the engine will be considered to be out of compliance from the date of the portable analyzer test until a portable analyzer test indicates compliance with both the NO_X and CO emission limitations or until the engine is taken offline.

2.3 Applicable Regulations for Permanent Engine Replacements

2.3.1 Reasonably Available Control Technology (RACT): Reg. 3, Part B § II.D.2

All permanent replacement engines that are located in an area that is classified as attainment/maintenance or nonattainment must apply Reasonably Available Control Technology (RACT) for the pollutants for which the area is attainment/maintenance or nonattainment. Note that both VOC and NO_X are precursors for ozone. RACT shall be applied for any level of emissions of the pollutant for which the area is in attainment/maintenance or nonattainment, except as follows:

In the Denver Metropolitan PM_{10} attainment/maintenance area, RACT applies to PM_{10} at any level of emissions and to NO_X and SO_2, as precursors to PM_{10}, if the potential to emit of NO_X or SO_2 exceeds 40 tons/yr.

For purposes of this AOS, the following shall be considered RACT for natural gas fired reciprocating internal combustion engines:

VOC: The emission limitations in NSPS JJJJ
CO: The emission limitations in NSPS JJJJ
NO_X: The emission limitations in NSPS JJJJ
SO_2: Use of natural gas as fuel
PM_{10}: Use of natural gas as fuel

As defined in 40 CFR Part 60 Subparts GG (§ 60.331) and 40 CFR Part 72 (§ 72.2), natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet.

2.3.2 Control Requirements and Emission Standards: Regulation No. 7, Sections XVI. and XVII.E (State-Only conditions).

Control Requirements: Section XVI

Any permanent replacement engine located within the boundaries of an ozone nonattainment area is subject to the applicable control requirements specified in Regulation No. 7, section XVI, as specified below:

Rich burn engines with a manufacturer's design rate greater than 500 hp shall use a non-selective catalyst and air fuel controller to reduce emission.

Lean burn engines with a manufacturer's design rate greater than 500 hp shall use an oxidation catalyst to reduce emissions.

The above emission control equipment shall be appropriately sized for the engine and shall be operated and maintained according to manufacturer specifications.

The source shall submit copies of the relevant Applicability Reports required under Condition 2.1.2.

Emission Standards: Section XVII.E – State-only requirements

Any permanent engine that is either constructed or relocated to the state of Colorado from another state, after the date listed in the table below shall operate and maintain each engine according to the manufacturer's written instructions or procedures to the extent practicable and consistent with technological limitations and good engineering and maintenance practices over the entire life of the engine so that it achieves the emission standards required in the table below:

Max Engine HP	Construction or Relocation Date	Emission Standards in G/hp-hr		
		NO_X	CO	VOC
100<Hp<500	January 1, 2008	2.0	4.0	1.0
	January 1, 2011	1.0	2.0	0.7
500≤Hp	July 1, 2007	2.0	4.0	1.0
	July 1, 2010	1.0	2.0	0.7

The source shall submit copies of the relevant Applicability Reports required under Condition 2.1.2.

2.3.3 NSPS for stationary spark ignition internal combustion engines: 40 CFR Part 60, Subpart JJJJ

A permanent replacement engine that is manufactured on or after 7/1/09 for emergency engines greater than 25 hp, 7/1/2008 for engines less than 500 hp, 7/1/2007 for engines greater than or equal to 500 hp except for lean burn engines greater than or equal to 500 hp and less than 1,350 hp, and 1/1/2008 for lean burn engines greater than or equal to 500 hp and less than 1,350 hp are subject to the requirements of 40 CFR Part 60, Subpart JJJJ. An analysis of applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in the Applicability Reports required under Condition 2.1.2. Any testing required by the NSPS is in addition to that required by this AOS. Note that the initial test required by NSPS Subpart JJJJ can serve as the testing required by this AOS under Condition 2.2, if approved in advance by the Division, provided that such test is conducted within the time frame specified in Condition 2.2.

Note that under the provisions of Regulation No. 6. Part B, section I.B. that Relocation of a source from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of Regulation No. 6 (i.e., the date that the source is first relocated to Colorado becomes equivalent to the manufacture date for purposes of determining the applicability of NSPS JJJJ requirements).

However, as of October 1, 2011 the Division has not yet adopted NSPS JJJJ. Until such time as it does, any engine subject to NSPS will be subject only under Federal law. Once the Division adopts NSPS JJJJ, there will be an additional step added to the determination of the NSPS. Under the provisions of Regulation No. 6, Part B, § I.B (which is referenced in Part A), any engine relocated from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of NSPS JJJJ.

2.3.4 Reciprocating internal combustion engine (RICE) MACT: 40 CFR Part 63, Subpart ZZZZ

A permanent replacement engine located at either an area or major source is subject to the requirements in 40 CFR Part 63, Subpart ZZZZ. An analysis of the applicable monitoring, recordkeeping, and reporting

requirements for the permanent engine replacement shall be included in the Applicability Reports required under Condition 2.1.2. Any testing required by the MACT is in addition to that required by this AOS. Note that the initial test required by the MACT can serve as the testing required by this AOS under Condition 2.2, if approved in advance by the Division, provided that such test is conducted within the time frame specified in Condition 2.2.

2.4 Additional Sources

The replacement of an existing engine with a new engine is viewed by the Division as the installation of a new emissions unit, not "routine replacement" of an existing unit. The AOS is therefore essentially an advanced construction permit review. The AOS cannot be used for additional new emission points for any site; an engine that is being installed as an entirely new emission point and not as part of an AOS-approved replacement of an existing onsite engine has to go through the appropriate Construction/Operating permitting process prior to installation.

ATTACHMENT B:

ALTERNATIVE OPERATING SCENARIOS

STATIONARY COMPRESSION IGNITION (CI) ENGINE

October 1, 2011

3. Alternative Operating Scenarios

The following Alternative Operating Scenario (AOS) for the temporary and permanent replacement of Stationary (CI) engines has been reviewed in accordance with the requirements of Regulation No. 3., Part A, Section IV.A, Operational Flexibility- Alternative Operating Scenarios, Regulation No. 3, Part B, Construction Permits, and Regulation No. 3, Part D, Major Stationary Source New Source Review and Prevention of Significant Deterioration, and it has been found to meet all applicable substantive and procedural requirements. This permit incorporates and shall be considered a Construction Permit for any engine replacement performed in accordance with this AOS, and the owner or operator shall be allowed to perform such engine replacement without applying for a revision to this permit or obtaining a new Construction Permit.

3.1 Engine Replacement

The following AOS is incorporated into this permit in order to deal with an engine breakdown or periodic routine maintenance and repair of an existing onsite engine that requires the use of either a temporary or permanent replacement engine. “Temporary” is defined as in the same service for 90 operating days or less in any 12 month period. “Permanent” is defined as in the same service for more than 90 operating days in any 12 month period. The 90 days is the total number of days that the engine is in operation. If the engine operates only part of a day, that day shall count as a single day towards the 90-day total. The compliance demonstrations and any periodic monitoring required by this AOS are in addition to any compliance demonstrations or periodic monitoring required by this permit.

All replacement engines are subject to all federally applicable and state-only requirements set forth in this permit (including monitoring and record keeping.

The results of any all tests and the associated calculations required by this AOS shall be submitted to the Division within 60 days. Results of all tests shall be kept on site for five (5) years and made available to the Division upon request.

The owner or operator shall maintain a log on-site and contemporaneously record the start and stop date of any engine replacement, the manufacturer, date of manufacture, model number, horsepower, and serial number of the engine(s) that are replaced during the term of this permit, and the manufacturer, model number, horsepower, and serial number of the replacement engine.

3.1.1 The owner or operator may **temporarily** replace an existing engine that is covered by this

permit with a different engine without modifying this permit, so long as the temporary replacement engine complies with all permit limitations and other requirements applicable to the existing engine. Calculation of emissions from the temporary replacement engine shall be made as set forth in section 2.1.3.

3.1.2 An Air Pollutant Emissions Notice (APEN) that includes the specific

manufacturer, model and serial number and horsepower of the permanent replacement engine shall be filed with the Division for the permanent replacement engine within 14 calendar days of commencing operation of the replacement engine. The APEN shall be accompanied by the appropriate APEN filing fee, a cover letter explaining that the owner or operator is exercising an alternative operating scenario and is installing a permanent replacement engine and an analysis of any new applicable requirements for the replacement engine as required by Condition 2.2. This submittal shall be accompanied by a certification from the Responsible Official indicating that "based on the information and belief formed after reasonable inquiry, the statements and information included in the submittal are true, accurate and complete".

This AOS cannot be used for permanent engine replacement of a grandfathered or permit exempt engine or an engine that is not subject to emission limits.

The owner or operator shall agree to pay fees based on the normal permit processing rate
for review of information submitted to the Division in regard to any permanent engine replacement.

3.1.3 Compliance of the replacement engine with the applicable emission limitations of the original engine shall be monitored by one of the following methods:

1) Manufacturer certified emission factors showing compliance.

2) Stack tests of same make and model showing compliance. This would only be considered if the test was done under similar conditions to Colorado (i.e. at altitude).

3) Stack tests on the engine.

3.2 Applicable Regulations for Permanent Engine Replacements

3.2.1 NSPS for stationary compression ignition internal combustion engines: 40 CFR Part 60, Subpart IIII.

A permanent replacement engine that is ordered after July 11, 2005 and manufactured after April 1, 2006 **or** is modified or reconstructed after July 11, 2005 is subject to the requirements of 40 CFR Part 60, Subpart IIII. An analysis of applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in any request for a permanent engine replacement.

Note that under the provisions of Regulation No. 6. Part B, section I.B. that Relocation of a source from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of Regulation No. 6 (i.e., the date that the source is first relocated to Colorado becomes equivalent to the date of manufacture for purposes of determining the applicability of NSPS IIII requirements).

3.2.2. MACT for Stationary Reciprocating Internal Combustion Engines:40 CFR Part 63, Subpart ZZZZ.

Any permanent replacement engine located at either an area or major source is subject to the requirements of 40 CFR Part 63, Subpart ZZZZ. An analysis of

applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in any request for a permanent engine replacement.

3.3 Additional Sources

The replacement of an existing engine with a new engine is viewed by the Division as the installation of a new emissions unit, not “routine replacement” of an existing unit. The AOS is therefore essentially an advanced construction permit review. The AOS cannot be used for additional new emission points for any site; an engine that is being installed as an entirely new emission point and not as part of an AOS-approved replacement of an existing onsite engine has to go through the appropriate Construction/Operating permitting process prior to installation.